

## FUTURE NAVIGATION SENSORS

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### Abstract

Navigation sensors are required to find out the position of vehicles/platforms moving from one place to the other. They play a major role in satellite and missile launch, ships and submarines etc. Inertial sensors are most used sensors for navigation. The current state of the art inertial sensors are not capable of dead reckoning as they need to GPS/GNSS update to achieve the required specifications/accuracy. Since GPS/GNSS updates would not be available under water, in large buildings and during wartime, it is essential to develop new sensors capable of dead reckoning. In this paper existing state of the art inertial sensors were described in brief. A discussion on possible future sensors technologies is presented and their specifications are compared with the existing sensors.

**Keywords:** Navigation Sensor, Gyroscope, Accelerometer, Inertial Sensor, Ultra Cold Atom, Bose-Einstein Condensate, Atom Interferometer, Atom Chip, Magnetic Wave Guide, Magnetic trap, Hemispherical Resonator